

-> b hcap  
FILE 'HCAPIUS' ENTERED AT 11:21:50 ON 01 MAY 2008  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 1 May 2008 VOL 148 ISS 18  
FILE LAST UPDATED: 30 Apr 2008 (20080430/ED)

Now CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

-> d bib abs hitetr 127 tot

01 ANBNO 1 01 1 NCMPALB CDPHYSTG 2018 ACS ON BTH (Continued)  
 02 31570-33-1 Dipiperidine diphenylphosphate  
 03 RCT (Paclobut); RCT (Paclobut on enceph)  
 04 (Inhaler) dipiperidine diphenylphosphate for deepening agent for  
 05 plant(2)  
 06 31570-33-1 NCMPALB  
 07 Dipiperidine, diphenyl (1:1) (CS INDEX NAME)  
 08 CS 1  
 09 CEN 1644-38-2  
 10 CWP 03 ON P  
 11  
 12  
 13  
 14  
 15  
 16  
 17  
 18  
 19  
 20  
 21  
 22  
 23  
 24  
 25  
 26  
 27  
 28  
 29  
 30  
 31  
 32  
 33  
 34  
 35  
 36  
 37  
 38  
 39  
 40  
 41  
 42  
 43  
 44  
 45  
 46  
 47  
 48  
 49  
 50  
 51  
 52  
 53  
 54  
 55  
 56  
 57  
 58  
 59  
 60  
 61  
 62  
 63  
 64  
 65  
 66  
 67  
 68  
 69  
 70  
 71  
 72  
 73  
 74  
 75  
 76  
 77  
 78  
 79  
 80  
 81  
 82  
 83  
 84  
 85  
 86  
 87  
 88  
 89  
 90  
 91  
 92  
 93  
 94  
 95  
 96  
 97  
 98  
 99  
 100  
 101  
 102  
 103  
 104  
 105  
 106  
 107  
 108  
 109  
 110  
 111  
 112  
 113  
 114  
 115  
 116  
 117  
 118  
 119  
 120  
 121  
 122  
 123  
 124  
 125  
 126  
 127  
 128  
 129  
 130  
 131  
 132  
 133  
 134  
 135  
 136  
 137  
 138  
 139  
 140  
 141  
 142  
 143  
 144  
 145  
 146  
 147  
 148  
 149  
 150  
 151  
 152  
 153  
 154  
 155  
 156  
 157  
 158  
 159  
 160  
 161  
 162  
 163  
 164  
 165  
 166  
 167  
 168  
 169  
 170  
 171  
 172  
 173  
 174  
 175  
 176  
 177  
 178  
 179  
 180  
 181  
 182  
 183  
 184  
 185  
 186  
 187  
 188  
 189  
 190  
 191  
 192  
 193  
 194  
 195  
 196  
 197  
 198  
 199  
 200  
 201  
 202  
 203  
 204  
 205  
 206  
 207  
 208  
 209  
 210  
 211  
 212  
 213  
 214  
 215  
 216  
 217  
 218  
 219  
 220  
 221  
 222  
 223  
 224  
 225  
 226  
 227  
 228  
 229  
 230  
 231  
 232  
 233  
 234  
 235  
 236  
 237  
 238  
 239  
 240  
 241  
 242  
 243  
 244  
 245  
 246  
 247  
 248  
 249  
 250  
 251  
 252  
 253  
 254  
 255  
 256  
 257  
 258  
 259  
 260  
 261  
 262  
 263  
 264  
 265  
 266  
 267  
 268  
 269  
 270  
 271  
 272  
 273  
 274  
 275  
 276  
 277  
 278  
 279  
 280  
 281  
 282  
 283  
 284  
 285  
 286  
 287  
 288  
 289  
 290  
 291  
 292  
 293  
 294  
 295  
 296  
 297  
 298  
 299  
 300  
 301  
 302  
 303  
 304  
 305  
 306  
 307  
 308  
 309  
 310  
 311  
 312  
 313  
 314  
 315  
 316  
 317  
 318  
 319  
 320  
 321  
 322  
 323  
 324  
 325  
 326  
 327  
 328  
 329  
 330  
 331  
 332  
 333  
 334  
 335  
 336  
 337  
 338  
 339  
 340  
 341  
 342  
 343  
 344  
 345  
 346  
 347  
 348  
 349  
 350  
 351  
 352  
 353  
 354  
 355  
 356  
 357  
 358  
 359  
 360  
 361  
 362  
 363  
 364  
 365  
 366  
 367  
 368  
 369  
 370  
 371  
 372  
 373  
 374  
 375  
 376  
 377  
 378  
 379  
 380  
 381  
 382  
 383  
 384  
 385  
 386  
 387  
 388  
 389  
 390  
 391  
 392  
 393  
 394  
 395  
 396  
 397  
 398  
 399  
 400  
 401  
 402  
 403  
 404  
 405  
 406  
 407  
 408  
 409  
 410  
 411  
 412  
 413  
 414  
 415  
 416  
 417  
 418  
 419  
 420  
 421  
 422  
 423  
 424  
 425  
 426  
 427  
 428  
 429  
 430  
 431  
 432  
 433  
 434  
 435  
 436  
 437  
 438  
 439  
 440  
 441  
 442  
 443  
 444  
 445  
 446  
 447  
 448  
 449  
 450  
 451  
 452  
 453  
 454  
 455  
 456  
 457  
 458  
 459  
 460  
 461  
 462  
 463  
 464  
 465  
 466  
 467  
 468  
 469  
 470  
 471  
 472  
 473  
 474  
 475  
 476  
 477  
 478  
 479  
 480  
 481  
 482  
 483  
 484  
 485  
 486  
 487  
 488  
 489  
 490  
 491  
 492  
 493  
 494  
 495  
 496  
 497  
 498  
 499  
 500  
 501  
 502  
 5



```
=> b uspatall
FILE 'USPATFULL' ENTERED AT 11:22:03 ON 01 MAY 2008
CA INDEXING COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATOLD' ENTERED AT 11:22:03 ON 01 MAY 2008
CA INDEXING COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 11:22:03 ON 01 MAY 2008
CA INDEXING COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

=> d bib abs hitstr 117 tot
```









LN	ADDRESS OF OFFICE	ADDRESS OF THE
AS	2005/224513	USPAT22
TI	Multi-step polishing solution for chemical mechanical planarization	
TE	Liu, Shengming; Newark, NJ, UNITED STATES	
TE	Quench, John; Woodbridge, NJ, UNITED STATES	
TE	Schmidt, Robert E.; New, DE, UNITED STATES	
TE	Thomas, Terence H.; Newark, NJ, UNITED STATES	
DA	MATERIAL NAME AND MANUFACTURER'S NAME: CDS Holdings, Inc., Wilmington, DE, UNITED STATES (U.S. corporation)	
DI	US-6011645	US 6011645
DI	US-020165362	20040222 (S)

117 ANSWER 9 OF 9 USPAT 06 ETH (Continued)



CR	2
CRM	110-85-0
CRF	C6 H10 N2

UTILITY  
 PA GRANTED  
 EXAM Primary Examiner: Wilson, Lee D., Assistant Examiner: Ojino, Anthony  
 REP Ch. Edman  
 CLM Number of Claims: 10  
 SCL Exemplary claim: 9  
 DWN No Drawings



AS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a multi-step aqueous composition useful for polishing a tantalum barrier material and copper from a semiconductor wafer, comprising by weight percent 0.1 to 32 oxidizer, 0.01 to 3 inorganic salt or acid, 0.01 to 4 inhibitor, 0.1 to 30 abrasive, 0 to 15 complexing agent and balance water, wherein the

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 IT 16316-56-8, Piperazine phosphate 52492-62-3, Piperazine  
 pyrophosphate  
 (component of polishing paste multi-step polishing solution for chemical  
 mech. planarization of metal films on semiconductor wafer)  
 RI 16316-56-8 524922  
 CS Piperazine, phosphate (1:1) (CA INDEX NAME)

CS Piperazine, phosphate (1:1) (CA INDEX NAME)

CR 1  
CSD 7664-38-2  
CST 83 D4 8



OM	2
CRM	110-95-2
CMF	04 N10 30



NS 52492-62-3 TSPAZZ  
CS Diphosphoric acid, compd. with piperazine (1:7) [CA INDEX NAME]

OM 1  
CDS 2046-08-2  
CME 44 02 02



-> b casre;d que sta l25;d bib abs crd l26 tot  
 FILE 'CASREACT' ENTERED AT 11:23:07 ON 01 MAY 2008  
 USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT  
 COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications.

FILE CONTENT:1840 - 26 Apr 2008 VOL 148 ISS 18

New CAS Information Use Policies, enter HELP USAGETERMS for details.

```
*****
*                                     *
*   CASREACT now has more than 13.8 million reactions   *
*                                     *
*****
```

Some CASREACT records are derived from the ZIG/VINITI database (1974-1999) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

L22

STR



NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE  
 L25 38 SEA FILE-CASREACT SSS FUL L22 ( 371 REACTIONS)

100.0% DONE 1269 VERIFIED 371 HIT RXNS 38 DOCS  
 SEARCH TIME: 00.00.01



134 ASSANGE 1 OF 15 CONTACT CONFIDENT 2009 ACT OR SITE (CONFIDENTIAL)

HEATH, G. B. JR. - 3 STUDIES.



834821 46 98 - 3 51025

COc1ccc2c(c1)c(=O)n(c2)C(C)(C)CN3CCCN(C3)CCO

124 ANSWER 1 OF 25 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

CN1CCN(CC1)CC2=CC(=O)C3=CC=CC=C3C(=O)N2C(=O)C4=CC=CC=C4C5=CC=CC=C5C6=CC=CC=C6C6=CC=CC=C6

124 ANSWER 1 OF 25 CONTACT COPYRIGHT 2004 ACS or STN (Continued)

图 1 (续) 407 页 - 4 步骤



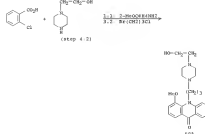
```

CON:  STSP(1,1) 4 hours, reflux
      STSP(2,2) >room temperature
      STSP(2,2) reflux
      STSP(2,1) 3 hours, 100 deg C
      STSP(2,2) >room temperature = c
      STSP(3,1) 10 minutes, room temperature
      STSP(3,2) 24 hours, room temperature
      STSP(4,1) 10 minutes, reflux
      STSP(4,2) 10 hours, reflux

```

$\text{R-OH} + \text{O} \xrightarrow[\text{K2CO3, MeCN}]{\text{NBr}_2, \text{H2O, 60}^\circ\text{C, 210}^\circ\text{C}}$

RT(92) CR 98 - 6 STOPS





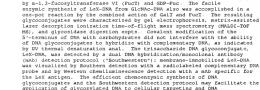
134 ASSANGE 2 OF 15 CONTACT CONFIDENT 2009 ACT OR BITE (CONFIDENTIAL)

NOTE: 1) incremental addition of the reactant, 2) molecular sieve added  
in stage 1, 3) incremental addition of the reactant, 8) Other

COND: STEP(1) 1) similarly prepared -> 0 deg C, 30 minutes, 0 deg C,  
1 hour, 0 deg C -> room temperature  
STEP(2) 1) 15 minutes -> 0 deg C  
STEP(3) 2) 4 hours, 0 deg C, 18 hours,  
0 deg C -> room temperature  
STEP(4) 1) 30 minutes, room temperature  
STEP(5) 1) 30 hours, room temperature  
STEP(6) 1) 18 hours, room temperature  
STEP(7) 1) room temperature -> 0 deg C, 1 hour, 0 deg C,  
0 deg C -> room temperature 15 minutes, room temperature  
STEP(8) 1) 18 hours, room temperature  
STEP(9) 1) room temperature -> 4 deg C, 4 deg C, 2 hours, 4 deg C,  
4 deg C, 2 hours  
STEP(10) 1) room temperature -> 4 deg C, 2 hours, 4 deg C  
STEP(11) 1) room temperature, 1 minute, room temperature  
STEP(12) 1) room temperature, 1 minute, room temperature

124 ANSWER 4 OF 25 CROSSTACT COPYRIGHT 2004 ACS on STM

76	14671-11-10	CUMPERIT
77	Chemomagnetic Synthesis and Antibody Detection of DNA oligonucleotides	Wang, Tingli; Sheng, Feiyu
78	Department of Chemistry and The Robert H. Lurie Comprehensive Cancer Center	University of Chicago, 5708 S. Wood St., 60637-0818, USA
79	Bioconjugate Chemistry (1995), 1, 403-421	
80	Abstracts: Bioconjugate Chemistry, 1995, 1, 403-421	
81	AMERICAN CHEMICAL SOCIETY	
82	Journal	
83	Reagents	
84	A homogeneous approach for the efficient synthesis of DNA-oxazaphosphorothioate conjugates is described. The conjugates are useful for the detection of DNA oligonucleotides. A phosphoramidite derivative of 3-oxazaphosphorothioate (GlcHMP) was synthesized and utilized to attach GlcHMP to the 3' end of DNA oligonucleotides. The GlcHMP-oligonucleotides were synthesized. The resulting GlcHMP-oligonucleotides were used as substrates for the detection of DNA oligonucleotides.	



```

101161 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101171 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101181 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101191 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101201 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101211 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101221 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101231 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101241 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101251 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101261 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101271 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101281 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101291 DF 34 - REACTION DIAGRAM NOT AVAILABLE
101301 DF 34 - REACTION DIAGRAM NOT AVAILABLE

```

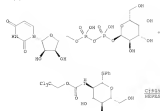
[illegible]

124 ARSENEN 4 OF 15. CONTACT COPYRIGHT 2008 ACS OR OTHER (Continued)  
RE:1101 OF 115 - REACTION DIAGRAM NOT AVAILABLE  
RE:1101 OF 115 - REACTION DIAGRAM NOT AVAILABLE  
RE:ENT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE PG FORDAY

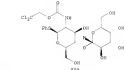
A4 ANS087 | OF 15 CHAIRMAN CONFIDENTIAL DEOR ACN OR NTR  
A6 L24|324270 CAGEGATE  
T1 Supplifying Glyoxysuccinate Synthesis: Efficient Synthesis of Lactosamine  
and Related Lactosamine Glycosides through the Dimerization of  
AA Gln, Pantoic Acid, Glutamic Acid, and Glutamate, Warren W. Gilbert,  
Michael Scher, Helmut J. Whitfield, Dennis H.  
CS Institute for Biological Sciences, National Research Council of Canada,  
Ottawa, ON, K1A 0R6, CAN  
J1 Journal of Organic Chemistry (2020), 85(6), 2426–2433  
Q9 OTHER JOURNAL ISSN 0022-0663  
M0 American Chemical Society  
J2 Journal  
L2 English  
AB Theoretical sequence is described for conversion of D-glucosamine into

[illegible]

1056 987 90



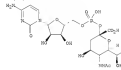
Act 2 of 42



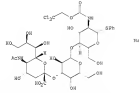
NOTE- biotransformation, enzymic, stereoselective, buffered soln.  
CON: 24 hours, 37 deg C, pH 7.4

124 ANSWER 7 OF 25 CASREACT COPYRIGHT 2009 ACS on STM (Continued)

REC(17): OF 15 = 2 STEPS



FILE(27) OF 46 = 2 STEPS



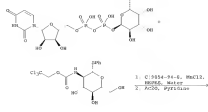
```

NOTE 1: biotransformation, enzymic, stereoselective, buffered soln.
      2: biotransformation, enzymic, stereoselective, buffered soln.
CQM: STEP(1) 20 hours, 37 deg C, pH 7.4
      STEP(2-1) 37 deg C
      STEP(2-2) 2 hours, 37 deg C

```

RE(27) OF 45 - REACTION DIAGRAM NOT AVAILABLE

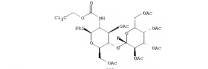
124 ANSWER 7 OF 15 CONTACT COPYRIGHT 2000 ACH OR NTN (CONTINUED)  
R2(16) OF 45 - 2 STORE



```

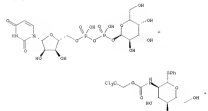
M2(16) -OF 66 - 2 STEPS

```



NOTE: 1) biotransformation, enzymic, stereoselective, buffered soln.  
CON: STEP(1) 20 hours, 37 deg C, pH 7.4  
STEP(2,3) 0 deg C; 16 hours, room temperature

000171 00 45 - 2 STEP4

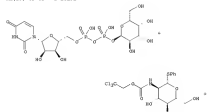


124 ANSWER 7 OF 25 CASHACT COPYRIGHT 2004 ACS on STN (Continued)

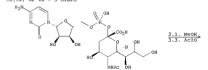
```

NS(28) OF 45 = 3 STEPS

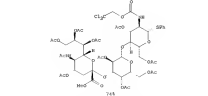
```



FILED: OCT 26 1994



EX(10) OF 65 - 3 STEPS



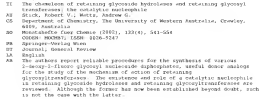
```
NOTE: 1) biotransformation, enrac, stereoselective, buffered soils
      2) biotransformation, enrac, stereoselective, buffered soils
      3) other product also detected, Dower 99WS-250 (8x) used
CON: STEP(1) 23 hours, 37 deg C, pH 7.4
      STEP(2) 13 hours, 37 deg C
      STEP(3) 2 hours, 37 deg C
      STEP(4) 16 hours, room temperature
      STEP(5) 2 hours, room temperature
```



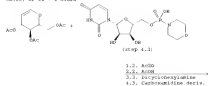


136 ANSWER 9 OF 35 CONTACT COPYRIGHT 2009 AOL OR ITS

## II The challenge of



RE(22) COF 28 - 4 STEPS

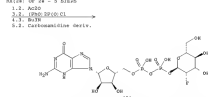


934(22) 047 28 - 4 5280P5

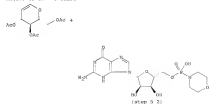
NOTE: 1) stereoselective, 2) stereoselective, 3) MacDonald phosphorylation, stereoselective, 4) Down S<sub>N</sub>2-CE in H<sub>2</sub> form used after step 2

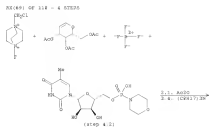
124 ANSWER 9 OF 25 CONTACT COPYRIGHT 2008 ACS on STN (Continued)

88(28) OF 28 - 5 6TH 24

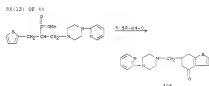


ISSN: 0952-6460      T462P42    A9  
A11    C17A

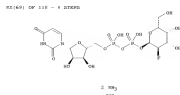


[illegible]

104 ANWEEKER 11 OF 25. CONTRACT COPYRIGHT 2004 ACS INC NEW  
 105 134 164987 CONTRACT  
 106 New Serotonergic  $\alpha$ -7N1A,  $\alpha$ -7N1B, and  $\alpha$ -7N1C Receptor Antagonists: Rhythmia,  
 107 Pharmacology, 35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000-1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1

[illegible]

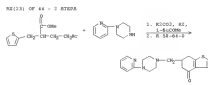
134 PAGE 10 OF 25 EXTRACT CERTIFICATE 2009 ACT 44 376 ID: 111664-1



NOTK: 1) stereoselective, 2) stereoselective, 3) sulfonic

RE CWT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

124. APPENDIX 11 OF 25. CASREACT. COPYRIGHT 2008. AOS, INC. BTU (Continued)

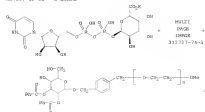


RE.CNT 83 THERE ARE 83 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

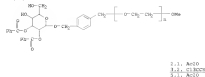


124 ANSWER 11 OF 25 CLAIMACT COPYRIGHT 2008 ACS on STM (Continued)

RI(24) OF 25 - 5 STEPS

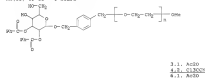


RI(24) OF 25 - 5 STEPS

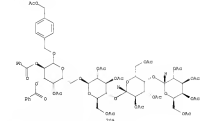


124 ANSWER 12 OF 25 CLAIMACT COPYRIGHT 2008 ACS on STM (Continued)

RI(25) OF 25 - 6 STEPS



RI(25) OF 25 - 6 STEPS

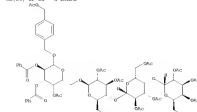


NOTE: 1) no expl. details, 2) no expl. details, regioselective, buffered soln., biotransformation, organic

RI.ENT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE PA FORMAT

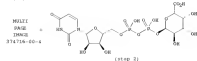
124 ANSWER 13 OF 25 CLAIMACT COPYRIGHT 2008 ACS on STM (Continued)

RI(24) OF 25 - 5 STEPS



NOTE: 1) no expl. details, regioselective, buffered soln., biotransformation, organic

RI(25) OF 25 - 6 STEPS



124 ANSWER 13 OF 25 CLAIMACT COPYRIGHT 2008 ACS on STM

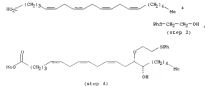
AB 15-THIOPHENE COMPOUND  
 CI PHARMACEUTICAL, stereoselective synthesis of 11,18-MET and leucosin A  
 AS Fakhri, J. R.; Reddy, Y. S.; Mahesh, D. C.; Reddy, M. M.; Krishna, K. M.;  
 Gaddam, S.; Murthy, S.; Sathesh, J. A.  
 CS Department of Microbiology, University of Texas Southwestern Medical  
 Center, Dallas, TX 75390-9080, USA  
 SO Tetrahedron Letters (2001), 42(28), 4131-4133  
 ISSN 0040-4039  
 ST Journal  
 LA Elsevier Science Ltd.  
 GI English



AB Cyclohexene 940000 and 12a (97%) mol were exploited for a conventional,  
 laboratory scale (1 mmol) preparation of 11(R),18(S)-epoxyoctadecanoic acid  
 (11(R),18(S)-EEO) (I) from lauroic acid and 14-epibromide 9  
 (11(R),18(S)-18bromooctadecanoic acid (II) from lauroic acid, temp. Their  
 structures were assessed via a four-step chemical reaction.

NOTE: 1) stereoselective, buffered soln., biotransformation, organic,  
2) stereoselective

RI(17) OF 31 - 4 STEPS



## 124 ANSWER 13 OF 25 CHEMTEXT COPYRIGHT 2008 ACS on STM (Continued)

R2(13) OF 31 - 4 STEPS



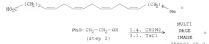
NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective

R2(14) OF 31 - 3 STEPS

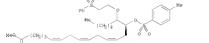


NOTE: 1) stereoselective, buffered soln., stereoselective, 2) stereoselective

R2(15) OF 31 - 3 STEPS



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield

## 124 ANSWER 12 OF 25 CHEMTEXT COPYRIGHT 2008 ACS on STM (Continued)

R2(18) OF 31 - 5 STEPS



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective

R2(19) OF 31 - 5 STEPS

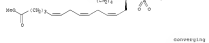


NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective

R2(20) OF 31 - 5 STEPS



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective



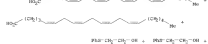
NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective

## 124 ANSWER 13 OF 25 CHEMTEXT COPYRIGHT 2008 ACS on STM (Continued)

R2(21) OF 31 - 5 STEPS



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective

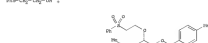


## 124 ANSWER 12 OF 25 CHEMTEXT COPYRIGHT 2008 ACS on STM (Continued)

R2(22) OF 31 - 4 STEPS



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective



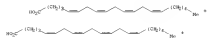
NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective



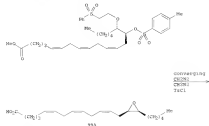
NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective



NOTE: 1) buffered soln., stereoselective, 2) NaH overall yield, stereoselective, 3) 58% overall yield, 4) stereoselective

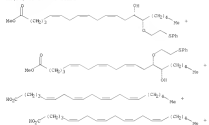
124 ANSWER 13 OF 25 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(32) OF 31 - 6 STEPS



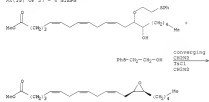
NOTE: buffered soln., stereoselective, 94% overall yield, stereoselective, 94% overall yield, stereoselective, 94% overall yield.

RX(34) OF 31 - 5 STEPS



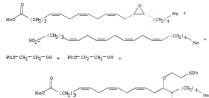
124 ANSWER 13 OF 25 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(35) OF 31 - 4 STEPS



NOTE: 94% overall yield, stereoselective, buffered soln., stereoselective, 94% overall yield, stereoselective.

RX(36) OF 31 - 6 STEPS



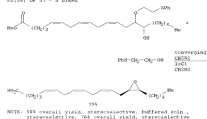
RX(38) OF 31 - 6 STEPS



NOTE: buffered soln., stereoselective, 94% overall yield, stereoselective, 94% overall yield, stereoselective, 94% overall yield, stereoselective.

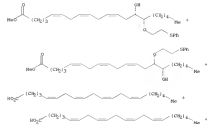
124 ANSWER 13 OF 25 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(34) OF 31 - 5 STEPS



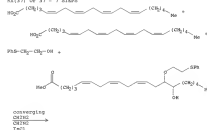
NOTE: 94% overall yield, stereoselective, buffered soln., stereoselective, 94% overall yield, stereoselective.

RX(35) OF 31 - 4 STEPS

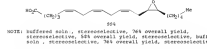


124 ANSWER 13 OF 25 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(37) OF 31 - 3 STEPS



RX(37) OF 31 - 3 STEPS



NOTE: buffered soln., stereoselective, 94% overall yield, stereoselective, 94% overall yield, stereoselective, 94% overall yield, stereoselective.

RE.ONT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE.ENTRY









124 ANSWER 19 OF 25 COPYRIGHT 2008 ACS on STM

AR 13.0661 CASREACT

TI Fluorinated analogs of Troil(4,4,9)

AU Harvey, Jome P.; Pevsnerich, Glenn S.

OI Dep. Chem., State Univ. New York, Stony Brook, NY, 11794-3402, USA

DO Tetrahedron Letters 1989, 30(4), 341-4

ORIGIN TRUSTED; ISSN 0040-4039

QT Journal

LA English

ST

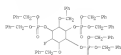


AR 3-Fluoro-5-deoxy-troil(4,4,9) (I) (X = H) and 3,2-difluoro-5-deoxy-troil(4,4,9) (I) (X = F), were synthesized from protected troil(4,4,9) precursor. The molecules compared with five 3,6-difluoro groups underwent ring cyclization to give 3,6-difluoro-5-deoxy-troil(4,4,9) (II) (X = H), while the trifluoro compound was inert.

RE(33) OF 32 - 3 STEPS



1. NaCl (PPH3)3, Trichloromethylamine, EtOH
2. Trichloromethylamine, EtOH
3. Trichloromethylamine, EtOH



444

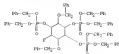
NOTE: 1) 91% overall, 2) 83% overall

124 ANSWER 19 OF 25 COPYRIGHT 2008 ACS on STM (Continued)

RE(34) OF 32 - 4 STEPS



1. NaCl (PPH3)3, Trichloromethylamine, EtOH
2. Trichloromethylamine, EtOH
3. Trichloromethylamine, EtOH
4. Trichloromethylamine, EtOH



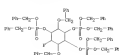
445

NOTE: 2) 91% overall, 3) 83% overall

RE(35) OF 32 - 4 STEPS



1. NaCl (PPH3)3, Trichloromethylamine, EtOH
2. Trichloromethylamine, EtOH
3. Trichloromethylamine, EtOH
4. Trichloromethylamine, EtOH



446

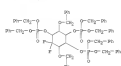
NOTE: 2) 91% overall, 3) 83% overall

124 ANSWER 19 OF 25 COPYRIGHT 2008 ACS on STM (Continued)

RE(36) OF 32 - 3 STEPS



1. NaCl (PPH3)3, Trichloromethylamine, EtOH
2. Trichloromethylamine, EtOH
3. Trichloromethylamine, EtOH

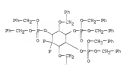


447

RE(37) OF 32 - 4 STEPS



1. NaCl (PPH3)3, Trichloromethylamine, EtOH
2. Trichloromethylamine, EtOH
3. Trichloromethylamine, EtOH
4. Trichloromethylamine, EtOH



448

NOTE: 1) 91% overall, 2) 83% overall

124 ANSWER 19 OF 25 COPYRIGHT 2008 ACS on STM (Continued)

RE(38) OF 32 - 4 STEPS



1. NaCl (PPH3)3, Trichloromethylamine, EtOH
2. Trichloromethylamine, EtOH
3. Trichloromethylamine, EtOH
4. Trichloromethylamine, EtOH



449

NOTE: 1) 91% overall, 2) 83% overall

RE(41) OF 32 - 4 STEPS



1. NaCl (PPH3)3, Trichloromethylamine, EtOH
2. Trichloromethylamine, EtOH
3. Trichloromethylamine, EtOH
4. Trichloromethylamine, EtOH

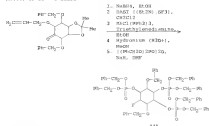


450

NOTE: 1) 91% overall, 2) 83% overall

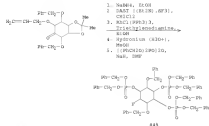
124 ANSWER 19 OF 25 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

RE(4) OF 51 - 3 STEPS



NOTE: 3) 51% overall, 4) 83% overall

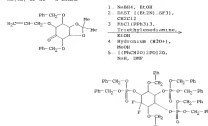
RE(4) OF 51 - 5 STEPS



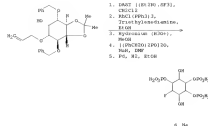
NOTE: 3) 51% overall, 4) 83% overall

124 ANSWER 19 OF 25 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

RE(4) OF 51 - 5 STEPS



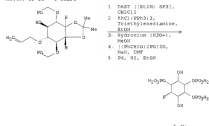
RE(47) OF 51 - 5 STEPS



NOTE: 2) 51% overall, 3) 83% overall

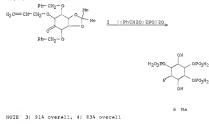
124 ANSWER 19 OF 25 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

RE(4) OF 51 - 4 STEPS



NOTE: 2) 51% overall, 3) 83% overall

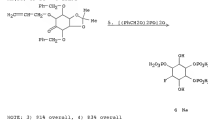
RE(4) OF 51 - 4 STEPS



NOTE: 2) 51% overall, 4) 83% overall

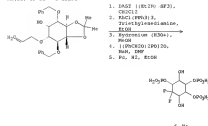
124 ANSWER 19 OF 25 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

RE(4) OF 51 - 4 STEPS



NOTE: 3) 51% overall, 4) 83% overall

RE(41) OF 51 - 5 STEPS



NOTE: 3) 51% overall, 4) 83% overall





## 124 ANSWER 11 OF 25 CHEMTEXT COPYRIGHT 2008 ACS on STM

AB 111 (1914) CASREACT

T1 The total synthesis of mps-inositol phosphates via mps-inositol

intermediate

A3 Wallington, David D.; Baker, Raymond; Kinsgsmid, Janice J.; Heuser, Ian

R. G. Netto, Joseph P.; Jandke, S. Jover; RICE, Joel S.

O3 Heuser, Ian; Cook, Mark; Sharp and Dimes New Lab.; Marlow/Kame, CHS

20A US

O2 Journal of the Chemical Society, Perkin Transactions 1: Organic and

Bioorganic Chemistry (1972-1975) (1989), (6), 1823-4

O1 CHEM. ABSTRACT, Index 6300-9356

O0 Journal

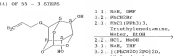
M4 English

O1

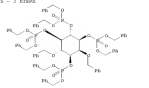


## 124 ANSWER 12 OF 25 CHEMTEXT COPYRIGHT 2008 ACS on STM (Continued)

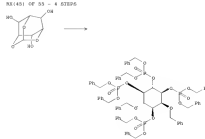
R2 (41) OF 55 - 3 STEPS



R2 (41) OF 55 - 3 STEPS

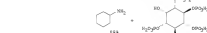
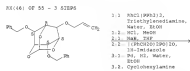


R2 (43) OF 55 - 4 STEPS

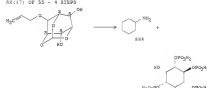


## 124 ANSWER 12 OF 25 CHEMTEXT COPYRIGHT 2008 ACS on STM (Continued)

R2 (46) OF 55 - 3 STEPS

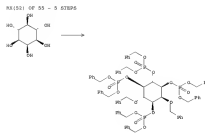


R2 (47) OF 55 - 4 STEPS

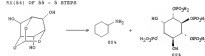


## 124 ANSWER 12 OF 25 CHEMTEXT COPYRIGHT 2008 ACS on STM (Continued)

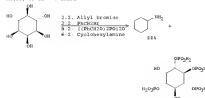
R2 (51) OF 55 - 5 STEPS



R2 (54) OF 55 - 5 STEPS



R2 (54) OF 55 - 4 STEPS







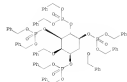


124 ANSWER 15 OF 25 EXTRACT COMPILATION 2008 ACS on RSC (Continued)

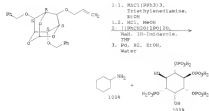
R1(11) OF 24 = 4 STEPS



R1(12) OF 24 = 4 STEPS

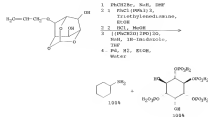


R1(13) OF 24 = 3 STEPS

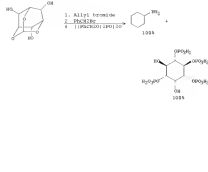


126 ANSWER 15 OF 25 EXTRACT COMPILATION 2008 ACS on RSC (Continued)

R1(14) OF 24 = 4 STEPS

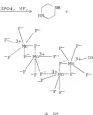


R1(15) OF 24 = 3 STEPS



-> d bib abs ord 118 tot

As indicated in Table 1, the  $\alpha$  and  $\beta$  phases are further characterized by strong NMR signals  $P = 30^\circ$ ,  $\alpha$ - $\beta$ ,  $\alpha$ -H-H', and  $\alpha$ -H-H' via isolated intramolecular  $\pi$  ( $\pi$ -H-H') and  $\pi$ -H-H' as well as over the  $\pi$ -H-H' contacts from a 3D network. Typical for  $\alpha$ -H-H' contacts, strong intramolecular elongation is observed due to the Jahn-Teller effect. The long axes show parallel orientation within the plane of the double-bridges, such 30-45 nm bridges are strongly anisotropic, therefore, the  $\alpha$ -H-H' bridges, the ordering between the dimers is also anisotropic in the tetramer. For  $\beta$ -H-H' bridges, the dimers in the chain are anisotropic.

$$\text{H}_2\text{O}-\text{M} \xrightarrow[\text{Water, EtOH}]{\text{Polymerization, H}_3\text{PO}_4, \text{HF}} \text{M} \text{ (in polymer)} + \text{H}_2\text{O}$$


RE: CITE 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS SCORE

AS German By adding picric acid to a HF and H3PO4 solution of MeF3, the fluorine phosphate (picric acid) MeF3(H2O)2(H3PO4) can be crystallized. The structure is built by piperazine(H2O)2 cations, (H2PO4)<sup>-</sup> anions, and an anionic double-chain of (HPO4)<sup>-</sup> tetrahedra and (H3O)<sup>+</sup>(H2O)2 octahedra. The structure is triclinic, space group P 2<sub>1</sub> 2<sub>1</sub> 2, *a* = 822.97(18), *b* = 923.16(4), *c* = 1193.62(7) Å,  $\alpha$  = 93.349(4)°,  $\beta$  = 93.377(4)°,  $\gamma$  = 107.842(15)°, *V* = 920,000 Å<sup>3</sup>, *Z* = 4. The structure was refined with *R* = 2.1%, 252 refined parameters, *R* = 0.0239, *wR* = 0.0667. It is worth noting that a ferrocene-styrene Jahn-Teller order is observed with MeF3(H2O)2(H3O)2 octahedra strongly elongated along the F-H $\cdots$ O62 axis perpendicular to the chain plane. The structure is stabilized by H $\cdots$ F and H $\cdots$ O bonds.

$$\text{104} \xrightarrow[\text{KHPd, Water}]{\text{N-7783-53-1, HF}} \text{105} + \text{107} + \text{H}_2\text{O} + \text{H}_2$$

RE-CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS PROOF  
ALL CITATIONS AVAILABLE IN THE RE-FOUNT

NA Using DMF and  $\text{H}_2\text{O}$  as solvent, piperazine as a template, a novel two-dimensional layered in phosphate  $[\text{HPO}_4\text{Si}(\text{H}_2\text{O})_2\text{Si}(\text{H}_2\text{O})_2\text{P}(\text{H}_2\text{O})_2]_n$  was prepared successfully, and its structure is determined at 293 K by X-ray diffraction. The  $a$ ,  $b$ , and  $c$  cell parameters are  $a = 0.8134(4)$  nm,  $b = 0.8134(4)$  nm,  $c = 0.8134(4)$  nm. The structure consists of water-sharing  $\text{HPO}_4$ ,  $\text{H}_2\text{O}$ , and  $\text{P}(\text{H}_2\text{O})_2$  tetrahedra, and double-terminated organic chains, which are unidirectional along the  $c$ -axis and 11-11' sheets. A network of H bonds between the north and south layers and layer-to-layer interaction holds the  $[\text{HPO}_4\text{Si}(\text{H}_2\text{O})_2\text{Si}(\text{H}_2\text{O})_2\text{P}(\text{H}_2\text{O})_2]_n$  layers together.

$$\text{HN} \begin{array}{c} \diagup \text{NH} \\ \diagdown \end{array} \xrightarrow[\text{Water}]{\text{Zn}(\text{CO}_3)_2, \text{H}_2\text{PO}_4^-} \text{HN} \begin{array}{c} \diagup \text{NH} \\ \diagdown \end{array} + \text{HO}-\text{P}(=\text{O})-\text{O}^-$$

CON: STAGE(1) 1 hour, room temperature; 110 hours, 100 deg C

-> d his

```

(FILE 'HOME' ENTERED AT 11:01:05 ON 01 MAY 2008)

FILE 'HCAPLUS' ENTERED AT 11:01:15 ON 01 MAY 2008
L1      1 US20060167256/PN

FILE 'REGISTRY' ENTERED AT 11:01:30 ON 01 MAY 2008

FILE 'HCAPLUS' ENTERED AT 11:01:35 ON 01 MAY 2008
L2      TRA L1 1- RN :      3 TERMS

FILE 'REGISTRY' ENTERED AT 11:01:35 ON 01 MAY 2008
L3      3 SEA L2

FILE 'REGISTRY' ENTERED AT 11:02:40 ON 01 MAY 2008
L4      3656 C4H10N2 AND NC2NC2/ES
L5      53 L4 AND H3O4P
L6      7 L4 AND H4O7P2

FILE 'HCAPLUS' ENTERED AT 11:03:59 ON 01 MAY 2008

FILE 'REGISTRY' ENTERED AT 11:04:03 ON 01 MAY 2008

FILE 'HCAPLUS' ENTERED AT 11:04:47 ON 01 MAY 2008
L7      38 PIPERAZINE (4A) (?PYROPHOSPHATE? OR DIPHOSPHATE (1A) 1 (1A) 1)
L8      38 L6
L9      45 L7-8
L10     128 L5
L11     7 PIPERAZINE (1A) (DIPHOSPHATE OR PHOSPHATE (1A) 1 (1A)2)
L12     132 L10-11
L13     20 L12 (L) RACT+NT/RL
L14     11 L9 (L) PREP+NT/RL
L15     1 L13 AND L14

FILE 'HCAOLD' ENTERED AT 11:08:44 ON 01 MAY 2008
L16     0 L12 AND L9

FILE 'USPATFULL, USPATOLD, USPAT2' ENTERED AT 11:09:07 ON 01 MAY 2008
L17     9 L10 AND L8

FILE 'CASREACT' ENTERED AT 11:09:56 ON 01 MAY 2008
L18     3 L5
L19     0 L6
L20     STR
L21     0 L20
L22     STR L20
L23     1 L22
L24     97 L22 FULL EXTEND
L25     38 L22 FULL
L26     25 L25 AND (PD<=20040827 OR AD<=20040827 OR PRD<=20040827)

FILE 'HCAPLUS' ENTERED AT 11:19:58 ON 01 MAY 2008
L27     1 L15 AND L1
        SET EXTEND OFF PERM

FILE 'CASREACT' ENTERED AT 11:21:25 ON 01 MAY 2008
L28     0 L1
=>

```